Master in Economics, Allievi Programs, and Ph.D. in Economics

APPLIED ECONOMICS

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Course Description
This course provides students with microeconometric tools to address empirical questions, particularly emphasizing their application to Labor Economics. I describe the econometric theory behind the different techniques, comment on empirical research papers applying these techniques, and lead students through implementing the econometric methods using actual data sets.

At the end of the course, students are expected to be able to discuss the suitability of the specifications used in applied economics research, comment on the validity of instrumental variable strategies, design difference-in-differences estimations, understand the context in which regression discontinuity design is applied and be able to obtain correctly estimated standard errors.

Required text
J. Angrist and J.-S. Pischke, "Mostly Harmless Econometrics." Princeton University Press, 2009.

Supplementary readings
J. Wooldridge, "Introductory Econometrics: A Modern Approach." South-Western (any edition)
J. Stock and M. Watson, "Introduction to Econometrics", Addison-Wesley, 2007 (2nd Edition).
G. Borjas, "Labor Economics", McGraw-Hill, 2009 (5th Edition).
P. Cahuc and A. Zylberberg, "Labor Economics", MIT Press.

TOPICS

1. REGRESSION

MHE, Chapters 1-3

J. Angrist and A. Krueger, "Does Compulsory Schooling Attendance Affect Schooling and Earnings?," *Quarterly Journal of Economics* 106, November 1991, 979-1014.

R. H. Dehejia and S. Wahba (1999): "Causal Effects in Nonexperimental Studies: Reevaluating the Evaluation of Training Programs," *Journal of the American Statistical Association*, 94, 1053-1062.

D.A. Black, J. A. Smith, M. C. Berger and B. J. Noel (2003): "Is the Threat of Reemployment Services More Effective than the Services Themselves? Evidence from a Random Assignment in the UI System," The American Economic Review, 93, 1313-1327.

2. INSTRUMENTAL VARIABLES

MHE, Chapter 4

J. Angrist, "Grouped Data Estimation and Testing in Simple Labor Supply Models," *Journal of Econometrics*, February/March 1991.

J. Angrist, "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records," *American Economic Review*, June 1990.

J. Angrist and A. Krueger, "The Effect of Age at School Entry on Educational Attainment: An Application of Instrumental Variables with Moments from Two Samples," *JASA 87* (June 1992).

J. Angrist and A. Krueger, "Split-Sample Instrumental Variables Estimates of the Returns to Schooling," *JBES*, April 1995.

D. Card, "The Causal Effect of Education on Earnings," *The Handbook of Labor Economics, Volume IIIA*, Elsevier Science Publishers, 1999.

J. Angrist, "Treatment Effect Heterogeneity in Theory and Practice," *The Economic Journal* 114, March 2004, C52-C83.

J. Angrist, G. Imbens, K. Graddy, "The Interpretation of Instrumental Variables Estimators in Simultaneous Equations Models with an Application to the Demand for Fish," *Review of Economic Studies* 67[3], July 2000, 499-528.

J. Angrist, V. Lavy, and Analia Schlosser, "Multiple Experiments for the Causal Link Between the Quantity and Quality of Children," MIT Working Paper 06-26, September 2006.

3. DIFFERENCE-IN-DIFFERENCES

MHE, Chapter 5

A. Abadie, A. Diamond, and J. Hainmueller, "Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program," *Journal of the American Statistical Association*, 2010 (forthcoming).

4. REGRESSION-DISCONTINUITY DESIGNS

MHE, Chapter 6

D. Lee, "Randomized Experiments from Non-Random Selection in U.S. House Elections," *Journal of Econometrics* 142, 2008.

J. Angrist and V. Lavy, "Using Maimonides Rule to Estimate the Effect of Class Size on Scholastic Achievement," *QJE*, May 1999.

5. STANDARD ERROR ISSUES

MHE, Section 3.1.3

MHE, Chapter 8

Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan, "How Much Should We Trust Differences-in-Differences Estimates?," *QJE* 119 (February 2004), 249-275.